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OUR REFERENCE
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Docket No. FAA-2002-13464

Docket Management System
U.S. Department of Transportation
Room Plaza 401
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Washington, DC 20590-0001
U.S.A.

DOCKET No. FAA-2002-13464, IMPROVED SEATS IN AIR CARRIER TRANSPORT CATEGORY AIRPLANES (SNPRM No. 02-17)

Dear Madam/Sir,

Airbus thanks the FAA for the opportunity to comment on SNPRM 02-17.

SNPRM 02-17 proposes that all passenger and cabin attendant seats installed in the flying fleet as well as on new delivered aircraft (all operating or to be operated under Part 121) have to be in compliance with the dynamic performance standards of § 25.562 from/after a certain time period.

The FAA received many comments after the release of NPRM 88-8, related to the same subject, in May 1988. Also the Public Meetings held by the FAA in 1995 and 1998 brought up additional arguments. Some of them were adopted and are reflected in the new SNPRM (e.g. the 14 year time period for exchange of seats for in-service aircraft).
Nevertheless there are still portions in the supporting documents as well as in the SNPRM itself, on which we wish to express the following comments:

Technical considerations and economic impact:

When NPRM 88-8 was issued, several arguments were expressed about the economic impact on the industry side. Nearly 15 years later, the current economic situation in air transportation is very critical, although based on other facts. The proposed rule would origin a high cost impact and burden for airlines and their actual operated aircraft.

For aircraft not having FAR § 25.562 in their type certification basis, there is no easy “take out” and “fit in the new part” solution, since their cabin interiors are not designed to address the new requirement. The system architecture, e.g. for electrical installations and structural support in the surrounding of passenger and cabin attendant seats, were designed to the flight and emergency landing loads of §§ 25.561 and 25.789.
Requiring installation of 16g seats for passengers and cabin attendants on Pre-Amendment 25-64 aircraft would bring a large number of associated modifications in the surrounding cabin as well as in the supporting structure. Some examples are given below:

- Seats, either for passenger or cabin attendant, previously installed on adapter plates might need new supporting aircraft structure.

- Distance between two adjacent located overwing exits might be wide enough to install a TSO-C39c seat with a fixed backrest, but it can be estimated that with the installation of a dynamically tested passenger seat and by applying the related guidance material (Deformation limitations), interference for the exit opening might occur.

- Compliance for front row HIC would result in set back of seats or in installation of additional protective means. Set back would result in loss of space in the cabin, while installation of additional protective means might increase the price per seat by up to 30%.

- Handsets installed in the headrest of cabin attendant seats on Pre-Amendment 25-64 aircraft would not be certifiable under § 25.562. Those parts would have to be relocated from the previous support to new areas in the cabin attendant seat environment, e.g. in the doorframe lining. Feasibility and compliance with other relevant FAR 25 installation and operational criteria cannot be guaranteed at this stage.

There might be cases where a compliant installation is not possible for a given seat.
Swivel cabin attendant seats arranged in cabin zones restricted in space might not be certifiable to the new rule, thus requiring installation of fixed cabin attendant seats.
Some cabin attendant seat variants installed on Airbus aircraft include solutions such as swivel seats, fixed seats with hooked-on stowage compartments and partitions, etc. Those design features, which quite often are used to support the installation of equipment or electrical systems would no more be possible. Rearrangement for each individual layout would have to be performed.

For small or older outrunning aircraft programs with limited orders the necessary investigation (NRC) to develop special solutions might influence decisions on aircraft manufacturer and operator side.

Recommendation: Consider additional costs coming from rearrangement of seat environment.

Application of guidance material:

The “Analysis of Options” from November 2000, as well as the “Preliminary Regulatory Evaluation…” dated April 2002, are providing a summary of economic aspects for the NPRM.
There are additional aspects, which will have a cost impact on the aircraft layouts already operating under FAR 121 as well as on new manufactured aircraft.

1. AC 25.562-1A Appendix 2 provides seat deformation limits to be measured during dynamic seat testing as well as seat installation criteria to be considered. By applying FAR § 25.562 to all passenger seats, related guidance material would be automatically adopted also.
   Applying these limitations to existing layouts would reduce the available length of the cabin depending on the number of areas where those deformations must be applied.
   On a long-range aircraft it might result in a dimension no longer allowing recline for at least one seat row, thus introducing an economic effect.

2. Structural interfaces and the associated test fixture for wall-mounted seats are referenced in AC 25.562-1A under paragraph 10.C(3). Applying these dynamic test criteria for new seats to be installed on already flying 9g static tested bulkheads would result in the need to modify the supporting structure or to replace the components.

Recommendation: Provide guidance on how installation criteria have to be considered for the Pre-Amendment 25-64 aircraft programs, or consider any seat deformation space lost for a given layout or further design impact within the cost/benefit analysis.

Cabin Attendant Seats:

The relatively high costs of $ 285.7 million or 55% of the overall undiscounted total costs of the SNPRM for the upgrading of cabin attendant seats questions the need for replacement.
On one side a relatively small number of cabin attendant seats failed during the various accidents considered in the DOT/FAA investigation report.
On the other hand it is stated that having a 9g cabin attendant seat at the same time when the passenger seats are justified according to 16g would not be acceptable because they will be less safe. This is not proven by the accident data.
To justify the costs for introduction of the upgraded cabin attendant seats it is assumed that each cabin attendant, that would not suffer fatal or serious injuries due to the introduction of 16g seats, may avert further passenger fatalities.
Beyond the uncertainty of estimates, it has to be mentioned that, for aircraft programs with a limited production rate or programs no longer under production, the cost-benefit balance would be quite different from the average: there would be a limited request for cabin attendant seat replacement within the 14-year period, which means high investigation costs compared to a relatively small number of seats to be produced.

Recommendation: Apply § 25.562 with respect to cabin attendant seats, to new aircraft programs only.

Yours sincerely,

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Product Integrity Division